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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,896	01/31/2005	Dingwei Lu	CNIP-B-PCT-US	2721
7590 06/23/2009 Hudak Shunk & Farine Company Suite 307 2020 Front Street Cuyahoga Falls, OH 44221				
EXAMINER COZART, JERMIE E				
ART UNIT		PAPER NUMBER		
3726				
MAIL DATE		DELIVERY MODE		
06/23/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/519,896

**Applicant(s)**

LU, DINGWEI

**Examiner**

Jermie E. Cozart

**Art Unit**

3726

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2009 and 02 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 7, and 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al. (WO 03/009314A1).

Regarding claim 1, Wada discloses a composite material including a high-thermal-conductor (e.g. Al, Cu, Ti; page 18, lines 19-20) and a room temperature magnetic refrigerant material (page 19, lines 1-2) is inherently processed to a particle with a diameter or thickness greater than 0.001mm, wherein the room temperature magnetic refrigerant material is nested (i.e. molded together) with the high-thermal-conductor to obtain the composite material (page 19, lines 5-8) in the shape of a sheet (i.e. film). *See page 18, line 10 – page 19, line 8 for further clarification.*

Wada, however, does not disclose the composite material having a diameter or thickness smaller than 1mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the composite material with a thickness or diameter smaller than 1mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*.

In addition, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide the composite material having a diameter or thickness smaller than 1mm because Applicant has not disclosed that providing the composite material having a thickness or diameter smaller than 1mm provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the dimension of the composite material taught by Wada because the composite material achieves its desired utility and function.

Therefore, it would have been an obvious matter of design choice to modify Wada to obtain the invention as specified in claim 1.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al. (US 6,826,915). *See column 6, lines 47-67 for further clarification..*

Regarding claim 1, Wada discloses a composite material including a high-thermal-conductor (e.g. Al, Cu, Ti; col. 6, lines 57-59) and a room temperature magnetic refrigerant material (col. 6, line 60) is inherently processed to a particle with a thickness greater than 0.001mm, wherein the room temperature magnetic refrigerant material is nested with (e.g. molded together; col. 6, line 61) the high-thermal-conductor to obtain the composite material (col. 6, lines 66-67) in the shape of a sheet (i.e. film). Wada, however, does not disclose the composite material having a diameter or thickness smaller than 1mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the composite material with a thickness or diameter

smaller than 1mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*.

In addition, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide the composite material having a diameter or thickness smaller than 1mm because Applicant has not disclosed that providing the composite material having a thickness or diameter smaller than 1mm provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the dimension of the composite material taught by Wada because the composite material achieves its desired utility and function.

Therefore, it would have been an obvious matter of design choice to modify Wada to obtain the invention as specified in claim 1.

#### ***Allowable Subject Matter***

4. Claims 2-4, 6, 7, and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 13 and 14 are allowed.

#### ***Response to Arguments***

6. Applicant's arguments filed 3/2/09 have been fully considered but they are not persuasive.

Applicant argues that since the range of the particles, sheet, or filament is less than 1mm in size, the same is clearly distinguished from both of the Wada references that contain magnetic refrigerant material of Wada of at least 5mm.

In response, the Examiner argues that the composite material having a thickness or diameter less than 1mm is a matter of obvious design choice because the specification does not disclose specifically with respect to the composite material having a diameter or thickness smaller than 1mm providing an advantage, being used for a particular purpose, or solving a stated problem. The specification fails to state that this particular range or value is the critical feature which alone provides an advantage, useful purpose, or solves a stated problem.

#### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie E. Cozart whose telephone number is 571-272-4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.
9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermie E Cozart/  
Primary Examiner, Art Unit 3726

June 21, 2009